

Recasting long-lived particle searches at the LHC with CheckMATE 2

Thursday 25 November 2021 10:00 (20 minutes)

In this talk, we will give a brief overview of CheckMATE 2 and discuss recent developments. In particular, we present the implementation of four types of long-lived particle searches, viz. displaced leptons, disappearing track, displaced vertex with either muons or with missing transverse energy, and heavy charged tracks. These four categories cover the signatures of a large range of physics models. We illustrate their potential for exclusion and discuss their mutual overlaps in mass-lifetime space for two simple phenomenological models involving either a $U(1)$ -charged or a coloured scalar.

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